

I claim:

1.

A method for presenting grain for NIR spectography examination, comprising, placing a quantity of grain to be examined in an overhead compartment with a lower grain discharge port, causing the grain to move downward through the discharge port in a curtain of grain of measured thickness, depositing the curtain of grain for downward movement across a sloping presentation surface, associating the optics of an NIR spectography apparatus with the presentation surface to permit light from the optics to be projected into the curtain of grain at a substantial right angle with respect to the direction of flow of the curtain of grain over the presentation surface, and gathering data from energy reflected towards the NIR spectography apparatus for analysis of microconstituents within the grain comprising the curtain of grain.

2.

The method of claim 1 wherein the area surrounding the optics of the NIR spectography apparatus and the portion of the curtain of grain moving over the presentation surface adjacent such apparatus are sealed from ambient light.

3.

The method of claim 1 wherein a movable baffle is associated with the discharge port for adjustably regulating the thickness of the curtain of grain flowing from the discharge port.

4.

The method of claim 1 wherein a plurality of separate quantities of grain are sequentially, separately, and continuously moved into the overhead compartment to permit each quantity of grain to be separately analyzed for its microconstituents.

5.

The method of claim 1 wherein the aforesaid steps are conducted on a moving grain harvesting combine while the grain in a field is being harvested.

6.

The method of claim 1 wherein a controller is associated with the discharge port, and the NIR spectography apparatus to control the thickness of the curtain of grain and its analysis.

7.

An apparatus for presenting grain for NIR spectography examination, comprising,  
an overhead grain compartment having a lower grain discharge port,  
a closeable valve on the discharge port,  
a downwardly extending grain channel located below the discharge port and adapted to receive grain from the overhead compartment when the valve is open,  
the channel including a sloping presentation surface,  
an adjustable baffle in the channel adapted to direct a curtain of grain of uniform thickness from the overhead compartment into engagement with the sloping presentation surface,  
the channel having a discharge opening at a lower end,

and an NIR spectography apparatus associated with the presentation surface and including an optic system to direct light at a substantial right angle with respect to the direction of flow of the curtain of grain over the presentation surface for analysis of the microconstituents within the grain comprising the curtain of grain.

8.

The apparatus of claim 7 wherein the channel has a wall in spaced relation to the presentation surface which is disposed at an angle with respect to the presentation surface.

9.

The apparatus of claim 7 wherein means are provided for surrounding the optics of the NIR spectography apparatus and a portion of a curtain of grain moving over the presentation surface are sealed from exposure to ambient light.

10.

The apparatus of claim 7 wherein a controller is associated with the valve and the baffle so that the baffle can be selectively adjusted to adjust the thickness of the grain curtain, and the valve can be selectively operated to permit separate quantities of grain from passing from the compartment into the channel.

11.

The apparatus of claim 1 wherein the aforesaid components are mounted on a grain harvesting combine to be operated while the combine is harvesting grain.

12.

The apparatus of claim 7 wherein the sloping surface is comprised of a transparent material.

13.

The apparatus of claim 7 wherein the optics of the NIR spectography system are immediately adjacent an exterior surface of the sloping surface.

14.

The apparatus of claim 7 wherein the optics of the NIR spectography system is located within the sloping surface and is in communication with the channel so as to be in direct contact with a curtain of grain moving over the sloping surface.